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Washington University Record, September 14, 2001

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Record

Sept. 14, 2001

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Washington University in St. Louis

MARY BUTKUS

Hundreds of students gathered in Brookings Quadrangle Tuesday night for a community gathering and candlelight vigil to remember those hurt or killed in the day's terrorist attacks.

World Trade Center, Pentagon attacks

Tragedies could bring lasting impact

By Neil Schoenherr

Disasters caused by human action tend to create more mental health problems than "acts of God" such as earthquakes or tornadoes. And among disasters caused by human action, terrorist attacks tend to be the most severe, said Carol S. North, M.D., professor of psychiatry at the School of Medicine.

"This ranks in the disaster typology as perhaps the most severe kind in evoking psychiatric and psychological responses," North said. "Probably the most important thing to realize is that the majority of people will have some kind of emotional response, and the closer they are to the impact, the greater that response will be."

North, along with Victor T. Le Vine, Ph.D., professor of political science in Arts & Sciences, and Chancellor Mark S. Wrighton spoke at a news conference Tuesday morning in the Alumni House.

North has studied similar disasters internationally and in the United States. She said the majority of people close to the impact may experience some symptoms of emotional distress. However, this does not mean that all people will develop a psychiatric disease; the one that occurs most commonly in such instances is post-traumatic stress disorder.

Le Vine has written, researched and taught on the subject of terrorism for the past 25 years.

"The world watched this on television," Le Vine said. "The effect is going to be worldwide with some traumatic effects, given the central location of New York and Washington, D.C., to world trade and world operations."

But Le Vine warned against too much speculation surrounding the events.

"This was a coordinated attack on targets in New York and Washington, D.C.," he said. "However, I do think that excessive speculation about who is behind the attacks is unwar-

See **Tragedies**, Page 6

Wrighton: 'Uphold the utmost respect'

Chancellor Mark S. Wrighton said the University is doing all it can to help students effectively deal with Tuesday's tragedy.

"Our sympathies go out to those affected by these attacks, and to those members of the University community who share our great concern for the safety and well-being of their family, friends and classmates who live and work in these cities," Wrighton said.

In light of the tragedy and out of respect to the affected members in the community, classes were canceled from noon-10 p.m. Tuesday.

"We must continue to uphold the utmost respect for the diverse people who constitute the Washington University community," Wrighton said. "People from all areas of the

See **Community**, Page 6

On Page 6

• Blood donation information
• Speeches made at Tuesday's vigil

PET proves best for revealing spread of cervical cancer

By Darrell E. Ward

Physicians at the School of Medicine and the Alvin J. Siteman Cancer Center of the medical school and Barnes-Jewish Hospital have found evidence that positron emission tomography (PET) is more accurate than the current standard, computed tomography (CT), in determining whether cervical cancer has spread to other areas of the body.

Their results were published in the Sept. 1 issue of the Journal of Clinical Oncology.

"Our study shows that PET is the most accurate imaging method presently available for identifying secondary tumors in patients with cervical cancer," said Perry Grigsby, M.D., professor of radiation oncology at the medical school's Mallinckrodt Institute of Radiology and first author of the study.

Knowing whether a tumor has spread to the lymph nodes is essential for determining the most appropriate treatment for a patient. Tumors confined to the wall of the uterus are treated by surgically removing the uterus and the woman has a 90 percent chance of being cancer-free five years later. Once the tumor has spread, however, radiation therapy without surgery is administered and the odds of survival drop to 45 percent.

At present, physicians use CT to assess the extent of cervical cancer. But CT scans are only moderately accurate. They often suggest that a cervical tumor has not spread to lymph nodes when in fact it has.

Grigsby, along with colleagues Barry A. Siegel, M.D., and Farrokh Dehdashti, M.D., of the Division of Nuclear Medicine, compared CT scans with PET scans in 101 women with cervical tumors detected during a physical examination. They took images of the cervical tumor itself (the primary tumor) and of lymph nodes in three areas of the body: the pelvis, the abdomen around the aorta (para-aortic lymph nodes) and the base of the neck above the collar bone (supraclavicular lymph nodes). These areas follow the path taken by cervical cancer as it advances.

Grigsby

PET scans confirmed the presence of a cervical tumor in 100 of the 101 women, while CT scans identified only 77. In the lymph nodes, PET revealed abnormal pelvic nodes in 67 of the women, while CT found 20; PET revealed abnormal abdominal nodes in 21 women, whereas CT

See **PET**, Page 6

Wooley receives Cope scholar award

By Tony Fitzpatrick

Karen L. Wooley, Ph.D., professor of chemistry in Arts & Sciences, has been awarded the 2002 Arthur C. Cope Young Scholar Award, sponsored by the American Chemical Society (ACS).

The annual awards, this year given to two chemists age 35 or younger before April 30, 2002, are highly prestigious accomplishments in the field of organic chemistry. They are given to recognize and encourage excellence in organic chemistry.

This year's other Cope Young Scholar Award went to Matthew D. Shair, Ph.D., of Harvard University.

Wooley

The award consists of $5,000, a certificate and a $40,000 unrestricted research grant to be assigned by the recipient to any university or nonprofit institution. Wooley is required to deliver a lecture at the annual Arthur C. Cope Symposium to be held as part of the ACS's annual meeting in August 2002 in Boston.

See **Award**, Page 5

Superexchange in molecular electronic switch broadens possibilities

By Tony Fitzpatrick

Using photosynthesis as their model, chemists at Washington University, North Carolina State University and the University of California, Riverside, have tested molecular electronic switches that turn the flow of light energy on and off.

Taking molecules called porphyrins that are related to the green chlorophyll pigments of photosynthesis, the chemists have studied many different arrays, or alignments of molecules. In molecular electronic wires, light energy absorbed by an input molecule at one end is transmitted from one molecule to another until the final output molecule emits light. To make a molecular optoelectronic switch, a unique molecular component is attached and, when activated, accepts and dissipates the energy, turning off the light emission.

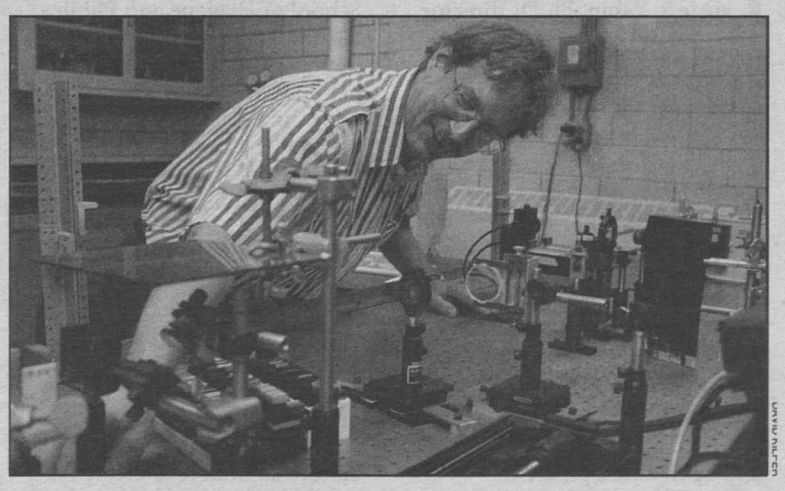
To the surprise of the chemists, a T-shaped arrangement in which the switching molecule is located perpendicular to one of the transmission molecules in the wire works just as effectively as a linear arrangement where the switch molecule is attached directly to the output component.

The Washington University chemists characterized the speeds of the various processes involved and found that the key to the operation is efficient communication between molecules that are distant from one another in the device.

Such a process is known as superexchange and has been known for some time in charge transfer, but its role in excited-state energy transfer is less well-studied.

Dewey Holten, Ph.D., professor of chemistry in Arts & Sciences, and doctoral candidate Robin Lammi removed an electron from the switch molecule, a magnesium porphyrin,

See **Switch**, Page 7



DAVID KILPER

Dewey Holten, Ph.D., professor of chemistry in Arts & Sciences, adjusts lenses in his sophisticated Louderman Hall laser laboratory. Using photosynthesis as their model, Holten and his collaborators are testing molecular electronic switches.

MARY BUTKUS

Learning opportunity (Left-right) Robert Wiltenburg, Ph.D., dean of University College and assistant dean of Arts & Sciences; Chancellor Mark S. Wrighton; Richard A. Roloff, executive vice chancellor; Richard Diemer, director of the Lifelong Learning Institute (LLI) of University College; Edward S. Macias, Ph.D., executive vice chancellor and dean of Arts & Sciences; and Lawrence Kahn, M.D., professor emeritus of pediatrics at the School of Medicine, congratulate Henrietta Freedman, founder of LLI and a former University trustee, after she cut the ribbon to open the new home of the LLI. The institute hosted its first Fall Address and Open House Sept. 7. LLI, now located at 9 N. Jackson Ave., offers a variety of study groups based on cooperative learning and member involvement to seniors in the community.

U.S. News and World Report

Undergraduate programs tied for 14th in latest national rankings

Washington University — consistently ranked among America's 20 best national universities — is now tied with Cornell University for 14th place in undergraduate programs, according to U.S. News and World Report magazine.

Washington University climbed one notch from last year's tie for 15th among the 249 national universities rated by U.S. News. The tie for 14th is the best undergraduate ranking of the University by U.S. News since the publication began its rankings in the 1980s.

The U.S. News undergraduate rankings are derived from data gathered from each institution, and this data is broken down into categories and assigned a weight reflecting the magazine's judgment about which measures of quality matter most. This year's results, published in the U.S. News issue dated Sept. 17, rank the University as fifth in financial resources, 12th in faculty resources and 12th in alumni giving. The University tied for eighth in percentage (71 percent) of classes with less than 20 students.

The U.S. News "Best Value" category ranks schools that offer a high-quality education at an affordable cost, including financial aid. The University tied for 16th with Duke University and Case Western Reserve University. Last year, the University was tied for 17th.

The Olin School of Business once again was tied for 16th with seven well-known undergraduate business programs, including Emory University, Penn State University and the University of Maryland.

"It is gratifying to see recognition coming to Washington University," Chancellor Mark S. Wrighton said. "Our success is due to the excellent students, faculty and staff who bring great value to the educational environment here. We have been generously supported by our alumni, friends, corporations, and foundations in our efforts to create the best programs for education and scholarship. Continued program development and support will enhance our impact and value to society."

In March, U.S. News published its annual rankings of graduate and professional programs, placing the George Warren Brown School of Social Work at No. 2 in the nation and the School of Medicine No. 4. Ten programs within the School of Medicine ranked in the top 10 in the nation, including physical therapy at No. 1 and occupational therapy at No. 3. The microbiology program ranked fourth, and internal medicine was fifth.

Altogether, more than 30 undergraduate and graduate programs and schools at the University are ranked by U.S. News and World Report as being in the top 25 of their respective areas.

The magazine and an undergraduate guidebook are available at newsstands. All rankings also are available on the magazine's Web site, www.usnews.com.

> "Our success is due to the excellent students, faculty and staff who bring great value to the educational environment here. … Continued program development and support will enhance our impact and value to society."
>
> MARK S. WRIGHTON

Distinguished professorship

Olin foundation gift honors new faculty member

BY BARBARA REA

A distinguished professorship established in the John M. Olin School of Business will honor new faculty member Glenn MacDonald, Chancellor Mark S. Wrighton announced.

The $2 million gift from the John M. Olin Foundation Inc. endows the John M. Olin Distinguished Professorship in Business, Law and Economics. The formal installation for MacDonald will be later in the school year.

"Bestowing this wonderful gift deepens the already strong legacy of support from the John M. Olin Foundation to Washington University," Wrighton said. "We are immensely grateful for the foundation's exceptional gift, as well as for all the support it has given us through the years."

The John M. Olin Foundation supports a number of academic endeavors at the University and has been especially generous to the business school. In recognition of a $15 million challenge grant made by the foundation in 1987, the school was named the John M. Olin School of Business. The foundation helped provide the resources for the school's rapid ascension to the top tier of business schools.

MacDonald: New Olin professor

In addition, the Olin foundation helped establish the University's Murray Weidenbaum Center on the Economy, Government, and Public Policy and the Center for the History of Freedom.

The foundation was created by John M. Olin in 1953. Olin, a leading industrialist and philanthropist, also provided funds for the University's main library on the Hilltop Campus.

Olin School Dean Stuart I. Greenbaum, Ph.D., noted that the endowment of a professorship in the school bearing the foundation's name is not only a great match, but also a critical move that will bring greater distinction as one of the top business schools in the country.

"We are most fortunate to have attracted Glenn MacDonald, a pre-eminent economist," Greenbaum said. "Glenn brings to the Olin School intellectual leadership in a range of areas, including game theory, business strategy, technological change, labor economics, research and development, economic growth and fluctuations, industry dynamics and industrial organization."

MacDonald comes to the University from the University of Rochester, where he was a professor of economics and management at the W.E. Simon School of Business.

His work has appeared in many publications, including the Journal of Political Economy, the American Economic Review, Econometrica and the Journal of the American Statistical Association. His research and applications of game theory have been used at many corporations, including Bausch & Lomb, Chase Manhattan Bank, Eastman Kodak Co., IBM, Xerox Corp. and General Motors Corp.

MacDonald earned a bachelor's degree in economics and mathematics from York University and master's and doctoral degrees in economics from the University of Rochester.

"Glenn MacDonald leads an all-star cast of 15 new faculty joining Olin this year," Greenbaum said. "Joining Olin's star-studded current faculty, they will propel the Olin School to new heights of excellence and recognition."

The Olin Foundation gift is part of the Campaign for Washington University.

Faculty Achievement Awards Ceremony Wednesday

The University community is invited to attend the third annual Faculty Achievement Awards Ceremony at 4:30 p.m. Wednesday at the Eric P. Newman Education Center, 320 S. Euclid Ave.

This year's honorees are Robert H. Waterston, M.D., Ph.D., winner of the Carl and Gerty Cori Award for Faculty Achievement, and Raymond E. Arvidson, Ph.D., winner of the Arthur Holly Compton Award for Faculty Achievement.

Waterston, the James S. McDonnell Professor and head of the Department of Genetics, director of the Genome Sequencing Center and professor of anatomy and neurobiology at the School of Medicine, will talk at the ceremony on "Going for the Genes." Arvidson, the James S. McDonnell Distinguished University Professor and chair of the Department of Earth and Planetary Sciences in Arts & Sciences, will speak on "Mars: Ancient Climates and the Search for Life."

Waterston and Arvidson will receive $5,000 honorariums and framed citations. A reception will immediately follow the ceremony.

Reservations are not required. For more information, call 935-5211.

Zabin to discuss reproductive health issues

Laurie S. Zabin, Ph.D., director of the Bill and Melinda Gates Institute for Population and Reproductive Health, will discuss "Lessons From U.S. Involvement in International Reproductive and Sexual Health Debates" at 4 p.m. Wednesday in the Women's Building formal lounge.

A reception with Zabin will be held at 3:30 p.m. in the lounge. International and Area Studies, the Medical Anthropology Program of the Department of Anthropology, and Women's Studies, all in Arts & Sciences, are co-sponsoring her talk and reception. Both are free and open to the public.

As director of the institute, which is at the Johns Hopkins School of Hygiene and Public Health, Zabin works with developing countries around the world, helping them create their own reproductive health programs.

"The institute is developed on the principle that the time is over when we should ship programs out of America and Europe," Zabin told the 2000 Vassar Alumnae/i Quarterly. "Our mission is to develop the capacity, both on the individual and the institutional level, for the developing world to handle their own programs. You can't create anything as appropriate to a culture as what they create for themselves."

Zabin, who is also a professor in Johns Hopkins' Department of Population & Family Health Sciences and the Department of Gynecology and Obstetrics in the university's medical school, entered the family planning field as a Planned Parenthood volunteer in the 1950s. Since then, she has received numerous awards and held many posts, including serving on the adolescent health committee of the American College of Obstetrics/Gynecology, the National Institutes of Health Panel on Long-Acting Contraception, and the White House Initiative on Adolescent Pregnancy Prevention.

For more information, call 935-5073.

Record

Washington University community news

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Washington University in St.Louis

Medical School Update

Cancers appear in mice treated with adeno-associated virus

Studying one type of gene therapy in mice, researchers made an unexpected and unsettling discovery: Six animals eventually developed cancer.

The results of the National Institutes of Health-funded study are described in two scientific reports published in the current issue of the journal Gene Therapy.

The research team, headed by Mark S. Sands, Ph.D., assistant professor of medicine and of genetics at the School of Medicine, used adeno-associated virus (AAV) to insert a human gene into 59 newborn mice. The gene coded for the enzyme beta-glucuronidase, which the mice were unable to produce because their own beta-glucuronidase genes were mutated. Their condition mimicked Sly's syndrome, one of more than 40 lysosomal storage diseases that in aggregate affect approximately 1 in 5,000 babies.

Lysosomes are cellular compartments that dismantle complex molecules into constituent pieces. When one of their enzymes is missing, the large molecules pile up, damaging cells in many tissues.

In these mice, just one injection of the gene-carrying virus raised production of beta-glucuronidase enzyme to functional levels for at least a year. The treated mice gained near-normal amounts of weight, their bones grew to almost normal lengths, and they didn't develop retinal problems. Therefore, gene therapy just after birth prevented many of the symptoms associated with lysosomal storage disease.

When the surviving mice were checked at 18 months old, three of the five had signs of liver cancer. Examination of additional mice that were either sacrificed or spontaneously died between 8 and 18 months identified three more animals with tumors. None of eight surviving untreated mice had cancer. Moreover, the researchers have never seen these tumors in the many mice they have treated in other ways for beta-glucuronidase deficiency.

The University study was not designed to determine whether AAV might be linked to cancer. It set out to test the long-term efficacy of gene therapy for mice lacking beta-glucuronidase.

Possible explanations for the findings include:

- Gene therapy with the particular recombinant AAV used by Sands' group may cause cancer in mice;
- Gene therapy with AAV may cause cancer in mice if performed during the neonatal period;
- Gene therapy with AAV may cause cancer in mice that lack beta-glucuronidase because these mice are immunocompromised and have other organ problems;
- Gene therapy with AAV may cause cancer in mice if the vector is injected intravenously;
- Overexpression of the human beta-glucuronidase gene in mice may cause cancer, regardless of the vector;
- Gene therapy with AAV may cause cancer in mice;
- The disease mucopolysaccharidosis type VII (MPS VII) may predispose these animals to malignancies.

Further studies will be needed to distinguish among these possibilities, the researchers stress. Sands' group is repeating the experiment to determine if the results are reproducible.

The agent used for gene transfer in these experiments, AAV, has been used in human gene-therapy trials. However, those human trials employed a localized method of delivery, rather than the systemic, intravenous approach used in this special mouse model.

At the time the tumors were discovered, University investigators informed the U.S. Food and Drug Administration and the National Institutes of Health (NIH) of their findings. The research was discussed in a public meeting sponsored by NIH's Recombinant DNA Activity Committee March 7 in Rockville, Md.

Humans who lack beta-glucuronidase have Sly's syndrome (also called beta-glucuronidase deficiency or MPS VII). They are unable to break down certain large carbohydrates (dermatan sulfate, heparan sulfate and chondroitin sufates) and can have short stature, mental retardation, abnormal facial features and numerous other problems.

No patient with Sly's syndrome or other lysosomal storage disease has undergone gene therapy with AAV. The clinical trials involving AAV have focused on other diseases, such as cystic fibrosis and hemophilia.

Study examines how human genes influence medications

By Darrell E. Ward

Scientists at the School of Medicine and the University of Southern California (USC) are collaborating on a major new research effort to better understand how a person's genes influence the effectiveness of medicines he or she takes.

Doctors know that small genetic differences can affect whether drugs will work in particular patients, but until recently researchers have been able to study the differences in only one or two genes at a time.

"Now, we are going beyond that," said Howard L. McLeod, Pharm.D., principal investigator for the project and associate professor of medicine, of molecular biology and pharmacology and of genetics at the medical school. "We are studying entire gene pathways that appear to be important for a given medication."

> "Our overall goal is to understand how and why people can have such differing responses to a wide array of medicines."
>
> Rochelle Long

The project is funded through a four-year, $6.6 million grant from the National Institute of General Medical Sciences (NIGMS). It represents an emerging area of medicine known as pharmacogenetics.

"This is a very exciting opportunity," said Heinz-Josef Lenz, M.D., associate professor of medicine at USC's Keck School of Medicine and that site's lead investigator. "The goal of our laboratory is to establish a strong translational research program that uses molecular markers to tailor chemotherapy for each patient. This grant is making our collaboration the cutting-edge instrument for pharmacogenetic research in the world."

Lenz is also a research oncologist with USC/Norris Comprehensive Cancer Center.

McLeod, an investigator with the Alvin J. Siteman Cancer Center of the University and Barnes-Jewish Hospital, and his colleagues will focus mainly on "individualized medicine," how to identify the best choice of medication for each patient.

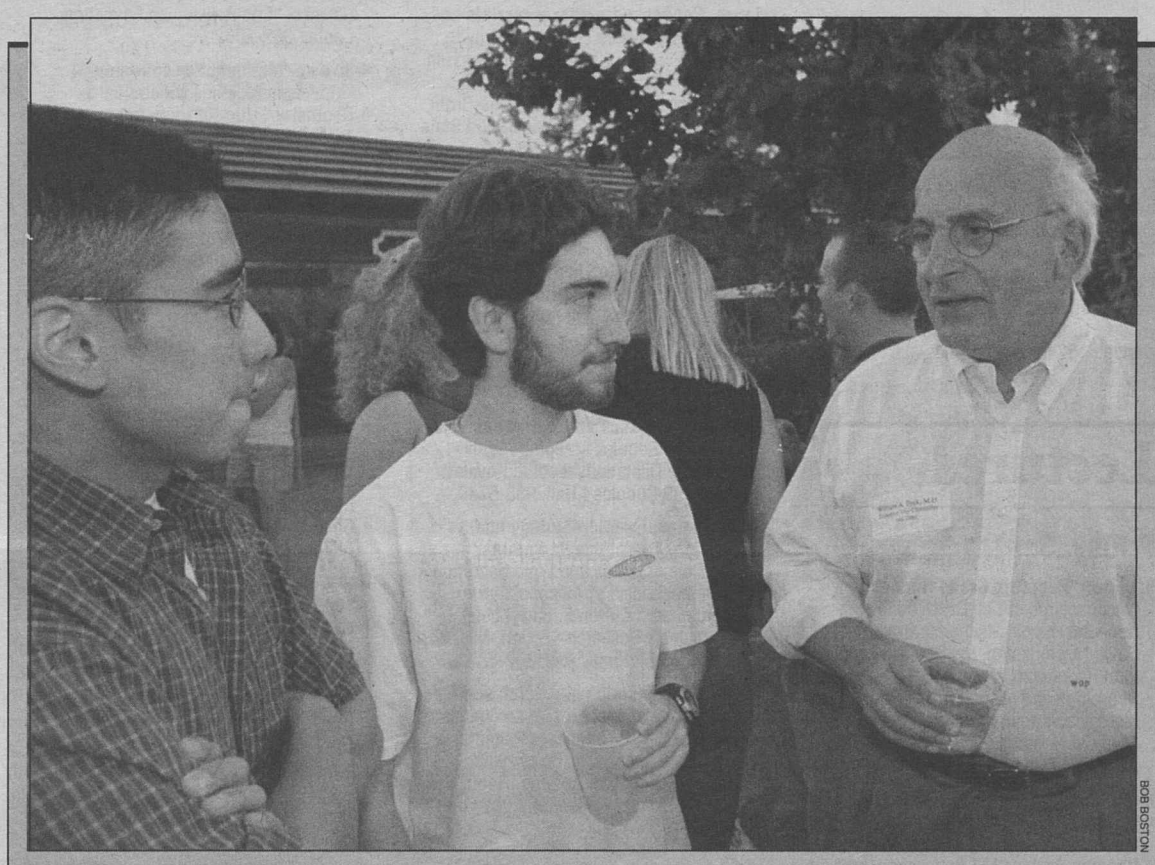
"We will use knowledge of a drug's action in the design of DNA tests to predict a drug's effect on that person," McLeod said.

The present project focuses on human gastrointestinal cancer, which has ethnic differences both in incidence and in treatment outcome and is treated using three drugs. The project aims to identify and evaluate variations in 95 genes involved in the action of the three drugs.

Developing strategies to individualize medicine requires that the study be comprehensive. It includes, for example, some scientists doing genetic analysis and others studying how minor changes in genes influence a protein's structure and function. Statistical geneticists are developing ways to assess how changes in several genes are important for individual patients, and clinical specialists integrate the genetic information into the treatment of patients.

The study, which relies heavily on the findings and technology of the Human Genome Project, focuses on cancer, McLeod said, "but the strategies we are developing will be applicable to many diseases."

McLeod and Lenz's program is part of a National Institutes of Health (NIH) initiative known as the Pharmacogenetics Research Network. "NIH assembled the network to bring together pharmacogenetics scientists across different disciplines and disease areas," said Rochelle Long, a pharmacologist at NIGMS who spearheaded the pharmacogenetics initiative. "Our overall goal is to understand how and why people can have such differing responses to a wide array of medicines."



BOB BOSTON

It's a zoo out there (From left) Brian DeBosch and Jacob Nadler get to know William A. Peck, M.D., executive vice chancellor for medical affairs and dean of the School of Medicine, at a welcoming party Friday at the St. Louis Zoo's River Camp. Peck hosted the party to kick off the academic year for the 120 first-year medical students.

Francis Collins to speak at Danforth Symposium Thursday

This year's William H. Danforth Scientific Symposium "Medicine at the Millennium" on Thursday will focus on the University's role in understanding the human genome.

Francis Collins, M.D., Ph.D., director of the National Institute of Human Genome Research at the National Institutes of Health, will give the keynote address.

The free symposium will begin at 1 p.m. in the Eric P. Newman Education Center at 320 S. Euclid Ave. The half-day event is designed for faculty, graduate students and fellows, but the entire University community is welcome to attend.

Collins will speak on "Consequences of the Human Genome Project for Medicine and Society." He oversees the public effort to map and sequence the human genome and is widely known for his contributions to human genetics. His research led to the identification of genes responsible for cystic fibrosis, neurofibromatosis and Huntington's disease.

Other University speakers include Robert H. Waterston, M.D., Ph.D., the James S. McDonnell Professor and head of the Department of Genetics, who will speak on "The Human Genome Project: Where Have We Come From? Where are We Going?" and Anne Bowcock, Ph.D., professor of genetics, who will discuss "Finding Genes for Complex Diseases." Sean Eddy, Ph.D., associate professor of genetics and assistant investigator at Howard Hughes Medical Institute, will talk about "Comparative Genomics: Trying to Understand the Human Genome," and Alan Templeton, Ph.D., the Charles Rebstock Professor of Biology in Arts & Sciences, will address "Going Beyond the Genome: Lessons from Genetic Studies on Coronary Artery Disease."

Chancellor Mark S. Wrighton and William A. Peck, M.D., executive vice chancellor for medical affairs and dean of the medical school, will address the symposium as well.

The symposium was established to recognize Danforth's longtime contribution to the University and the School of Medicine. Danforth, who began a medical residency at Barnes Hospital in 1954, served as vice chancellor for medical affairs and as president of the Washington University Medical Center from 1965-71. He was chancellor of the University from 1971 until his retirement in 1995. He now serves as vice chairman of the Board of Trustees and chancellor emeritus.

For more information about the symposium, call 286-0071.

Yokoyama receives Novartis award for basic immunology

Wayne M. Yokoyama, M.D., was awarded Novartis' 2001 Prize for Basic Immunology at the 11th International Congress for Immunology in Stockholm, Sweden. He was recognized for his groundbreaking scientific contributions to our understanding of natural killer cells and the molecular basis for their function.

Yokoyama is the Sam J. Levin and Audrey Loew Levin Professor of Research in Arthritis and a professor of pathology and immunology at the School of Medicine. He also is an investigator for the Howard Hughes Medical Institute and chief of the rheumatology division at the medical school and Barnes-Jewish Hospital.

The Novartis prizes for immunology are presented every three years and are renowned as the most prestigious awards in the field. They are awarded for outstanding achievements in understanding the body's immune system and major immunological discoveries that lead to therapeutic applications.

Yokoyama shared the award with Klas Kärre from Stockholm, Sweden, and Lorenzo Moretta of Genoa, Italy, in honor of their work on natural killer cells. These components of the body's immune system fight tumors and infections.

University Events

Poet, fiction writer Howe to read for The Writing Program Reading Series

BY LIAM OTTEN

Fanny Howe, author of more than 20 books of poetry and fiction, will read from her work at 8 p.m. Thursday for The Writing Program Reading Series.

Howe is in residence for two weeks in The Writing Program in the Department of English in Arts & Sciences, serving as Fannie Hurst Professor of Creative Literature.

In addition, Howe will lead a colloquium on the craft of poetry at 8 p.m. Sept. 27. Both events are free and open to the public and take place in Hurst Lounge, located in Duncker Hall Room 201. A book signing will follow the reading, and copies of Howe's works will be available for purchase.

Author Fanny Howe

What: The Writing Program Reading Series

When: 8 p.m. Thursday

What: Colloquium on the craft of poetry

When: 8 p.m. Sept. 27

Howe's most recent book of poetry, "Selected Poems"(2000), contains 16 series of lyrics gathered from her work over the past 20 years. The poems have been called "meditations on matter and spirit, on the wondrous strangeness of human life on earth."

In her novels too, such as "Nod"(1998), which won a New American Writing Award, dark forces intermingle with a rich sense of wonder.

"In both her fiction and her poetry, Fanny Howe shows how language itself can be used as the medium of pilgrimage, of spiritual inquiry," said Carl Phillips, professor of English and director of The Writing Program. "The result is the return of faith in language and in the capacity for language still to save us."

Howe is currently professor of writing and American literature at the University of California, San Diego. Her awards include Best American Poetry of 2000; the Commonwealth of California Gold Medal Award for Poetry, 2001; the Pushcart Prize for Fiction; an American Book Award for Fiction; a National Poetry Foundation Award; and two awards from the National Endowment for the Arts.

Other books of poetry include "The End" (1992), "One Crossed Out" (1997) and "The Vineyard" (1988). Her most recent novel, "Indivisible," was published this year.

For more information, call 935-7130.

Throwing Light • The Other Helsinki • Goodpasture Syndrome

"University Events" lists a portion of the activities taking place at Washington University Sept. 14-26. Visit the Web for expanded calendars for the School of Medicine (medschool.wustl.edu/events/) and the Hilltop Campus cf6000.wustl.edu/calendar/events/).

Exhibitions

"Al Parker: Innovator in American Illustration" Through Oct. 5. WU Special Collections, fifth floor, Olin Library. 935-5495.

"Thomas B. Allen, Innovator of American Illustration: A Retrospective." Through Sept. 16. Des Lee Gallery, University Lofts Bldg., 1627 Washington Ave. 621-8735.

Lectures

Friday, Sept. 14

9:15 a.m. Pediatric Grand Rounds. "Mechanisms of Cell Death Following Neonatal Hypoxic-ischemic Brain Injury." David M. Holtzman, the Charlotte and Paul Hagemann Assoc. Prof. of Neurology and assoc. prof. of molecular biology and pharmacology, Center for the Study of Nervous System Injury. Clopton Aud., 4950 Children's Place. 454-6006.

Noon. Cell biology and physiology seminar. "Signal Transduction Mechanisms Guiding Cell Migration in the Nervous System." Yi Rao, assoc. prof. of anatomy and neurobiology. Room 426 McDonnell Medical Sciences Bldg. 362-6950.

4 p.m. Anatomy and neurobiology seminar. "Throwing Light on Synaptic Plasticity in New Ways." Jeffery W. Lichtman, prof. of anatomy and neurobiology. Room 928, McDonnell Medical Sciences Bldg. 362-7043.

4 p.m. Foreign Language Learning Colloquium Series. "Gender and Interaction in the Language Classroom." Monika Chavez, assoc. prof. of German and applied linguistics, U. of Wis., Madison. Co-sponsored by The Teaching Center and the dean of the faculty of Arts and Sciences. Room 162 McDonnell Hall. 935-5175.

4 p.m. Mathematics colloquium. "Spectral Gaps of Periodic Schroedinger Operator and Smoothness of Its Potential." Steven G. Krantz, prof. and chair of mathematics. Room 113 Cupples I Hall (tea 3:30 p.m., Room 200). 935-6760

Monday, Sept. 17

10 a.m. Center for Mental Health Services Research seminar. "Research Agenda for Racial Disparities in Mental Health Services." Lionel Scott, research assoc., Center for Mental Health Services Research. Room 38 Goldfarb Hall. 935-5687.

Noon. Molecular biology and pharmacology research seminar. "Building a Second Brain: Enteric Neural Crest Development." Robert O. Heukeroth, asst. prof. of pediatrics and of molecular biology and pharmacology. Room 3907 South Bldg. 362-2725.

Noon. Neurology and neurological surgery research seminar. "Role of apoE on A-Beta Metabolism: Insights From a Transgenic Mouse Model of Alzheimer's Disease." Anne Fagan-Niven, research asst. prof. of neurology. Schwarz Aud., first floor, Maternity Bldg. 362-7316.

4 p.m. Chemistry-biology interface seminar. "How Are Peptide Antibiotics Macrocyclized Enzymatically?" Christopher Walsh, prof., Harvard Medical School. Room 458 Louderman Hall. 935-4665.

4 p.m. Condensed matter/materials and biological physics seminar. "Growth Morphology of Epitaxial Rare Earth Thin Films and the Interplay Between Structure and Magnetism." Katharina Theis-Bröhl, Inst. of Experimental Physics/Solid State Physics, Ruhr-U. of Bochum, Germany. Room 241 Compton Hall (coffee 3:45 p.m.). 935-6276.

7 p.m. Architecture Monday Night Lecture Series. "The Other Helsinki – The Reverse Face of Architecture in the City." Juha Ilonen, visiting assoc. prof., Helsinki, Finland. Steinberg Hall Aud. (reception 6:30 p.m., Givens Hall). 935-6293.

Tuesday, Sept. 18

Noon. Mathematics major oral/analysis seminar. "Sobolev Mappings With Integrable Dilatation." Leonid Kovalev. Room 199 Cupples I Hall. 935-6760.

Noon. Molecular Microbiology and Microbial Pathogenesis Seminar series. "The Role of Lipids and Lipid Secretion in the Pathogenesis of *Mycobacterium tuberculosis*." Clifton E. Barry, chief, Tuberculosis Research Section, NIH. Cori Aud., 4565 McKinley Ave. 362-8873.

4 p.m. Anesthesiology research seminar. Eileen Lafer, assoc. prof. of biochemistry and dir., UTHSCSA Surface Plasmon Resonance Lab., U. of Texas Health Science Center, San Antonio. Room 5550 Clinical Sciences Research Bldg. 362-8560.

Wednesday, Sept. 19

8 a.m. Obstetrics and Gynecology Grand Rounds. "History of the OB/GYN Department of Washington University." Yasmine Kareem, chief resident, obstetrics and gynecology dept. Clopton Aud., 4950 Children's Place. 362-1016.

11 a.m. Assembly Series. Robert Frank, author and prof. of economics, Cornell U. Co-sponsored by the economics dept. Graham Chapel. 935-5285.

4 p.m. Medical Anthropology, International and Area Studies, and Women's Studies. "Lessons From U.S. Involvement in International Reproductive and Sexual Health Debates." Laurie Zabin, dir. of Bill and Melinda Gates Inst. for Population and Reproductive Health, Johns Hopkins U. Women's Bldg. Lounge (reception 3:30 p.m.). 935-5073.

5 p.m. Ophthalmology and Visual Sciences Grand Rounds. "Glacomatous Optic Nerve Damage With Visual Field Loss Increases the Risk of Falls and Non-spine Fractures." Anne Coleman, assoc. prof. of ophthalmology, UCLA School of Medicine. "The Functional Vision Issues of Community Residing Older Adults." M. Carolyn Baum, assoc. prof. and Elias Michael Dir. of program in occupational therapy; and asst. prof. of neurology and neurological surgery. East Pavilion Aud., Barnes-Jewish Hosp. Bldg. 362-5722.

Thursday, Sept. 20

8 a.m. Medical Grand Rounds. Saulo Klahr lecture. "Goodpasture Syndrome Creeps Into the Molecular Age." Eric G. Neilson, the Hugh Jackson Morgan Prof., chairman, dept. of medicine, Vanderbilt U. Medical Center, Nashville, Tenn. Co-sponsored by the National Kidney Foundation and Washington U. School of Medicine. Clopton Aud., 4950 Children's Place. 454-7017.

11 a.m. Pulmonary and Critical Care Medicine Grand Rounds. "How It Really Happened: Pulmonary Medicine." John A. Pierce, prof. emeritus of medicine. East Pavilion Aud., Barnes-Jewish Hosp. Bldg. 362-6904.

1 p.m. Genetics seminar. Danforth symposium. "The Human Genome Project: Revolutionizing Medicine and Science." Eric P. Newman Education Center. 362-2062.

4:30 p.m. Mathematics colloquium. "Models in Moebius Differential Geometry." Udo Hertrich-Jeromin, Technical U. in Berlin. Room 199 Cupples I Hall (tea 4 p.m., Room 200). 935-6760.

6:15 p.m. Germanic Languages and Literatures lecture. "The Nature of Evil: From the Simple to the Complex." John A. McCarthy, prof. of German and of comparative literature, Vanderbilt U., Nashville, Tenn. 935-4360.

Friday, Sept. 21

9:15 a.m. Pediatric Grand Rounds. "The History of Pediatric Heart and Lung Transplantation." Eric N. Mendeloff, assoc. prof. of surgery, cardiothoracic surgery div.; and assoc. surgical dir., pediatric heart and lung transplantation, St. Louis Children's Hosp. Clopton Aud., 4950 Children's Place. 454-6006.

Noon. Cell biology and physiology seminar. "Ubiquitin-mediated Proteolysis as a Key Regulator of Biological Processes." Dorata Skowyra, asst. prof. of biochemistry and molecular biology, Saint Louis U. School of Medicine. Room 426 McDonnell Medical Science Bldg. 747-4233.

4 p.m. Geometry seminar. "Holly's Tori and Co." Udo Hertrich-Jeromin, Technical U. in Berlin. Room 199 Cupples I Hall. 935-6760.

7:30 p.m. St. Louis Astronomical Society lecture. "Beginner's Guide to Mars and the Stars." Introduction to star-gazing by members of the Saint Louis Astronomical Society. Co-sponsored by earth and planetary sciences and NASA's Missouri Space Grant Consortium. Room 162 McDonnell Hall. 935-4614.

Saturday, Sept. 22

1 p.m. Joint Center for East Asian Studies symposium. "East Asian Studies and the Popular Imagination." Kyoko Mori, novelist, and Chang Chen-yi, animator (Disney's "Mulan"). Women's Bldg. Lounge. 935-4448.

Monday, Sept. 24

Noon. Neurology and neurological surgery research seminar. "Molecular Mechanisms of Early and Delayed Cell Death Following Neonatal Hypoxia-ischemic Brain Injury." David M. Holtzman, the Charlotte and Paul Hagemann Prof. of Neurology, and assoc. prof. of molecular biology and pharmacology. Schwarz Aud., first floor, Maternity Bldg. 362-7316.

Noon-1 p.m. Work, Families and Public Policy Brown Bag Seminar Series. "Games Daughters and Parents Play: Teenage Childbearing, Parental Reputation, and Strategic Transfers." V. Joseph Hotz, U. of Calif., Los Angeles. Room 300 Eliot Hall. 935-4918.

4 p.m. Committee on Comparative Literature lecture. "Woody Allen's Parodies." Seymour Chatman, prof. emeritus of rhetoric and film, U. of Calif., Berkeley. Room 110 January Hall. 935-5170.

4 p.m. Immunology Research Seminar Series. "Current Ideas About Immunological Synapses." Andrey S. Shaw, prof. of pathology and immunology. Eric P. Newman Education Center. 362-2763.

Tuesday, Sept. 25

Noon. Mathematics analysis seminar. "Estimates on the Dimension of the Symmetry Group of a System of Partial Differential Equations." Herve Gaussier, U. of Provence, Marseille, France. Room 199 Cupples I Hall. 935-6760.

Noon. Molecular Microbiology and Microbial Pathogenesis Seminar series. "Diabetic Yeast: Glucose Sensing by a Simple Eukaryotic Cell." H. Mark Johnston, prof. of genetics. Cori Aud., 4565 McKinley Ave. 362-3692.

Wednesday, Sept. 26

8 a.m. Obstetrics and Gynecology Grand Rounds. "BV-HIV Connection." Sharon Hillier, prof. of obstetrics and gynecology, Magee-Women's Hosp., U. of Pittsburgh School of Medicine. Clopton Aud., 4950 Children's Place. 362-1016.

11 a.m. Assembly Series. Coral Courts lecture. Maya Lin, artist, sculptor and designer, will present her work. Co-sponsored by School of Architecture. Graham Chapel. 935-5285.

1:15 p.m. Ethical conduct of research seminar (School of Medicine). Co-sponsored by psychiatry dept. and Comorbidity and Addictions Center. East Pavilion Aud., Barnes-Jewish Hosp. Bldg. 286-2252.

5:15 p.m. Mothers and Babies Research Center conference. "How Placentas Get Fat." W. Timothy Schaiff, research instr. in obstetrics and gynecology and interdisciplinary women's health research scholar. Room 36, third floor south, St. Louis Children's Hosp. 747-0739.

7:30 p.m. School of Art Visiting Artist Lecture Series. Zoe Beloff, City College and N.Y.U. Steinberg Hall Aud. 935-6500.

Music

Friday, Sept. 14

8 p.m. Acoustic City Concert Series. Eddie from Ohio, which Sing Out! Magazine calls "contemporary folk-on-steroids." Cost: $12 in advance, $14 at the door (free for Washington U. students, staff and faculty). The Gargoyle. 935-7576.

Sunday, Sept. 16

3 p.m. Music dept. faculty recital. "Music of the German Baroque: Bach and Before." Elizabeth Macdonald, viola da gamba; Charles Metz, harpsichord; and William Bauer, violin. Steinberg Hall Aud. 935-4841.

Sunday, Sept. 23

3 p.m. WU Symphony Orchestra and Jazz Band concert. Dan Presgrave, symphony dir., Chris Becker, jazz band dir. Brookings Quadrangle (rain location: Graham Chapel). 935-4841.

Sports

Friday, Sept. 14

4 p.m. Volleyball WU National Invitational vs. U. of Wis., La Crosse. (Also 8:30 p.m. vs. U. of Puget Sound, Tacoma, Wash.) Field House. 935-5220.

7 p.m. Women's soccer vs. Carleton College, Northfield, Mich. Francis Field. 935-5220.

Saturday, Sept. 15

10 a.m. Volleyball WU National Invitational vs. Ohio Northern U., Ada. (Also 3 p.m. vs. U. of Wisconsin, Whitewater.) Field House. 935-5220.

Sunday, Sept. 16

3 p.m. Women's soccer vs. Fontbonne College. Francis Field. 935-5220.

Wednesday, Sept. 19

7 p.m. Volleyball vs. Fontbonne College. Fontbonne College, St. Louis. 935-5220.

Thursday, Sept. 20

4 p.m. Women's tennis vs. Quincy U. Tao tennis Center. 935-5220.

Saturday, Sept. 22

Noon. Volleyball UAA Round Robin vs. U. of Chicago. Field House. 935-5220

1 p.m. Football vs. Albion College, Mich. Francis Field. 935-5220.

Sunday, Sept. 23

10 a.m. Volleyball UAA Round Robin vs. U. of Rochester, N.Y. Field House. 935-5220.

2 p.m. Volleyball UAA Round Robin vs. Case Western Reserve U., Cleveland. Field House. 935-5220.

Tuesday, Sept. 25

7 p.m. Women's soccer vs. Maryville U. Francis Field. 935-5220.

And more...

Saturday, Sept. 15

9 a.m. Professional development workshop. "Building Your First Web Page." Rob Compton, manager, Arts & Sciences Computing Center. Cost: $30. Room 14 Eads Hall. To register, call 935-6759.

Tuesday, Sept. 18

Noon-1 p.m. Toastmasters event. Sponsored by Washington U. Toastmasters for Oratorical Readiness (WUTFOR). Room 1140A, 4480 Clayton Ave. 286-0133.

Thursday, Sept. 20

8 p.m. Writing Program Reading Series. Fanny Howe, poet and fiction writer, will read from her work. Hurst Lounge, Room 201 Duncker Hall. 935-7130.

Monday, Sept. 24

7:30 a.m. STD laboratory methods course. Sponsored by St. Louis STD/HIV Prevention Training Center. (Continues through Sept. 26.) Cost: $60. Room 601A Becker Library. (Sept. 25, 1 p.m., Conference Room Storz Bldg.; and Sept. 26, 7:30 a.m., Room 601A Becker Library.) Registration required. 747-0294.

Wednesday, Sept. 26

7 p.m. Exploring the Universe Mini-series. "A Warp-10 Tour of the Universe." Rich Heuermann, earth and planetary sciences dept. Co-sponsored by earth and planetary sciences and NASA's Missouri Space Grand Consortium. Room 162 McDonnell Hall. 935-4614.

MARY BUTKUS

What a show Agnes Tsang (left), a senior sculpture major, interned with artist Mary Lynn O'Shea at the Clayton Art Fair last weekend. The program — the brainchild of Ron Fondaw, area coordinator of ceramics in the School of Art — first pairs students with professional artists, then provides them with display booths of their own the following year. The Clayton Art Fair is the third-largest event of its kind in the United States, drawing some 160 artists and 140,000 attendees.

Parker symposium held today in Gallery of Art

BY LIAM OTTEN

Al Parker (1906-85), a 1928 graduate of the School of Art, was one of the most successful and influential illustrators of the 1940s, '50s and '60s. His work for Cosmopolitan, McCalls, Good Housekeeping and other major monthlies chronicled — and, it might be argued, helped shape — the fashions, attitudes and aspirations of post-war America.

The Visual Arts and Design Center will host an all-day symposium today in the Gallery of Art in Steinberg Auditorium about Parker's work and legacy. The event, which is free and open to the public, comes in conjunction with the exhibition "Al Parker: Innovator in American Illustration," now on display in the University's Special Collections, located on the fifth level of Olin Library. For more information, call 935-5495.

The first session at the symposium — "Al Parker, Practitioner: Ahead of the Curve?" — begins at 10 a.m. and features a panel of contemporary illustrators moderated by D.B. Dowd, associate professor in the School of Art. Other participants include Terry Brown, director of the Society of Illustrators, New York; Marshall Arisman, illustrator and professor at the School of the Visual Arts, New York; and University alumnus Bernie Fuchs, the youngest artist ever elected to the Society of Illustrators Hall of Fame.

The afternoon session, "Al Parker & the Weekly Magazine: The Mid-Century Cultural Context," begins at 1:15 p.m. and is moderated by Angela Miller, associate professor in the Department of Art History & Archaeology in Arts & Sciences. Other participants include Alice Carter, professor in the School of Art and Design at San Jose State University; Christopher S. Clarke, an independent exhibition developer and consulting historian; and Michael J. Murphy, a doctoral candidate in the Department of Art History & Archaeology.

A recognition ceremony for Kit Parker, the illustrator's son, begins at 3:45 p.m., followed by a final session — "Rebuttal and Synthesis; History and Practice" — at 4 p.m. A reception will follow, from 5-7 p.m., in Special Collections.

Noted economist Frank to give Assembly Series lecture

BY KURT MUELLER

Economist Robert H. Frank will give an Assembly Series lecture at 11 a.m. Wednesday in Graham Chapel.

Frank is the Goldwin Smith Professor of Economics, Ethics and Public Policy at Cornell University, where he also holds a joint appointment in the university's Johnson School of Management. His writing and research focus on economics and social policy issues.

He has authored a number of books, including "Choosing the Right Pond: Human Behavior and the Quest for Status," "Passions Within Reason: The Strategic Role of the Emotions," "Microeconomics and Behavior" and "Luxury Fever." In 1995, Frank co-wrote "The Winner-Take-All Society," which received a Critic's Choice Award, was named a Notable Book of the Year by The New York Times and was listed in Business Week's annual list of top 10 books. In addition, Frank co-wrote the newly published "Principles of Economics." A noted essayist, Frank is a frequent contributor to The New York Times.

Assembly Series

Who: Economist Robert H. Frank
What: Assembly Series lecture
Where: Graham Chapel
When: 11 a.m. Wednesday

Frank earned a bachelor's degree in mathematics from Georgia Institute of Technology in 1966, then he took a two-year hiatus to teach math and science as a Peace Corps volunteer. He earned a master's degree in statistics and a doctoral degree in economics, both from University of California, Berkeley.

He has taught at Cornell for nearly 30 years, during which he also served as chief economist for the Civil Aeronautics Board (1978-80), a fellow at the Center for Advanced Study in Behavioral Sciences (1992-93) and most recently, a visiting professor of American civilization at the Ecole des Hautes Etudes en Sciences Sociales in Paris.

All Assembly Series talks are free and open to the public. For more information, call 935-5285 or visit the Assembly Series Web site, wupa.wustl.edu/assembly.

The Assembly Series lecture by Dave Hickey that had been scheduled for Wednesday was canceled due to the cessation of the nation's flights that morning.

Award

Wooley named winner of Cope scholar award

— from Page 1

"This is wonderful news," said Joseph J.H. Ackerman, Ph.D., the William Greenleaf Elliot Professor of Chemistry and department chair. "Congratulations to Karen Wooley, and to the department. This is an extremely prestigious award that reflects well on Washington University. It's an excellent way to begin the new school year."

Wooley's award citation notes "her seminal accomplishments at the interface of organic, polymer and materials chemistry, including the development of methodologies for the preparation of well-defined nanometer-scale macromolecules, shell crosslinked knedel-like nanoparticles and nanocages, and the elucidation of original concepts in synthetic polymer chemistry for the synthesis of hydrolytically degradable polymers."

Wooley's research has drawn considerable professional and popular interest in recent years. Her work was cited in the July issue of Discover as a finalist for the annual Discover awards. She is widely considered to be in the forefront of the emerging field of nanoscopically defined organic materials.

Wooley is perhaps best known for her creation of tiny synthetic polymer particles that mimic viruses and show potential for a new direction in gene therapy and other biomedical applications. The nanoparticle goes by the descriptive name of knedel (k-ned-l), for its similarity to a popular Polish dumpling. The knedels are shell cross-linked structures surrounding a hydrophobic, or water insoluble, core domain. They are too small to be seen by the naked eye (one nanometer is one-billionth of a meter); their diameters range from 10 to 100 nanometers. They are actually close in size to many proteins and viruses.

In 2000, Wooley and researchers in her lab hollowed out the knedel core to produce "nanocages," into which someday researchers might be able to pack peptides, genes, proteins and small molecule drugs for delivery in the body.

> **"This is an extremely prestigious award that reflects well on Washington University. It's an excellent way to begin the new school year."**
>
> JOSEPH J.H. ACKERMAN

Wooley earned a bachelor of science degree in chemistry from Oregon State University in 1988 and then studied under the direction of Jean M. J. Fréchet, Ph.D., at Cornell University, obtaining a doctorate in polymer/organic chemistry in 1993. She then began an academic career as an assistant professor of chemistry at Washington University and was promoted in 1999 to full professor with tenure.

Since 1996, Wooley also has held an appointment in the Division of Biological and Biomedical Sciences Bioorganic Chemistry Program. Her research interests include the synthesis and characterization of degradable polymers, unique macromolecular architectures and complex polymer assemblies, for which she has received young investigator awards from the National Science Foundation (1994-99), the Army Research Office (1996-99) and the Office of Naval Research (1998-2001). She was named as a DuPont Young Professor (1996-99).

Wooley currently serves the ACS Division of Polymer Chemistry as the publications chair and as an alternate councilor.

Sports

Football victorious in home opener

The Bears passed a big early test as they won their ninth-straight home opener with a 17-14 victory Saturday over Illinois Wesleyan University. The Bears scored 17 unanswered points over the second and third quarters, and the defense held twice on fourth down in the final two minutes to hang on for the win. Sophomore tailback Bobby Collins had his second straight big game, rushing 26 times for 92 yards. Senior wide receiver Jim Donley played his first game since recovering from a dislocated toe and caught six passes for a career-high 119 yards and a touchdown.

Volleyball wins 4, takes WU Classic

The University's fourth-ranked volleyball team posted four wins en route to the Washington University Classic championship last weekend. The Bears defeated Westminster College, University of St. Francis, Webster University and Concordia College (Minn.). Katie Quinn, Rebecca Rotello and Colleen Winter were named to the all-tournament team. Quinn collected 37 kills and hit .541 for the weekend; Rotello finished the tournament with 137 assists and 35 kills.

Men's soccer drops 2 in Chicago tourney

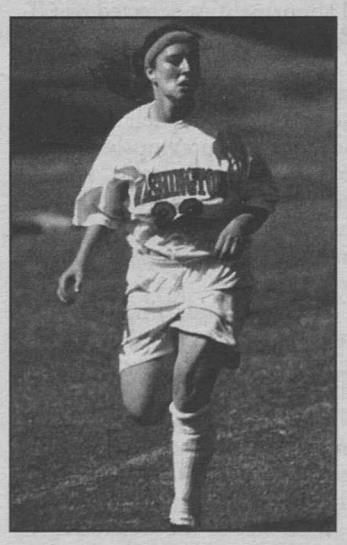
The men's soccer team traveled to the SCAC/UAA Tournament in Chicago last weekend and came home with two 2-1 losses. On Sept. 7, the Bears lost their first game of the year, to the University of South, and then lost to Rhodes College Sunday. Jeff LaBoskey, sophomore Steve Bujarski and freshman Matt Twardowski were all named to the all-tournament team.

Women's soccer rebounds, wins 7-0

The women's soccer team dropped its home opener last week but then improved to 2-1-1 on the year with a win and a tie over the weekend in Wisconsin. The Bears looked in good position for a win Sept. 5 against Principia College, but the Panthers overcame a 1-0 deficit with two goals in the final nine minutes to pull out the win. WU then played to a scoreless draw with the University of Wisconsin-Eau Claire Saturday but finally took out its frustrations with a 7-0 blanking of the University of Wisconsin-Stout on Sunday. Jessica Glick tied the school single-game record with four goals and added an assist as the Bears rolled to the 7-0 win. Megan Drews had a goal and an assist and Samantha Sussman and Kim Raess also scored.

Cross country teams place well in opener

The 2001 season-opening race was a good one for the University cross country teams as the women placed second out of 16 teams and the men's team placed fifth out of 16 at the North Central College Alumni Meet in Naperville, Ill. The women's team finished with 81 points, 19 behind first-place finisher Wheaton College. The men's team finished with 141 points.



Jessica Glick tied the school single-game record with four goals in a 7-0 win Saturday over the University of Wisconsin-Stout.

Wrighton, Fields reach out at vigil

A candlelight vigil was held in Brookings Quadrangle Tuesday night that allowed students, faculty and staff to come together to reflect on the day's tragic events. Chancellor Mark S. Wrighton and Wayne Fields, Ph.D., the Lynne Cooper Harvey Distinguished Professor in English and director of American cultures studies, both in Arts & Sciences, were among the faculty and student speakers at the ceremony. Below are Wrighton's and Fields' remarks.

Chancellor Wrighton

The tragic events today sadden all of us. We gather this evening as a community concerned for our families, our friends and our graduates who may have lost their lives or who may have been injured. For many there remains the uncertainty of whether those we love and care for are safe. At times like these, we naturally reach out to touch our family members, to affirm their safety and to seek consolation and support. For many gathered here this evening, you are far away from home and concerned for your families and friends and they are likewise concerned about you.

We gather as your Washington University family. Our community is one that cares for one another, and we now must support each other. We come from all parts of the United States and the world, concerned for those who have died or have been harmed today. Our heart goes out to their families and friends, some who are here tonight. Our concern extends to all affected, because we value human life.

In the aftermath of the events of today, emotions and tension will be high. I would like to remind you that the great expectation I have for each of you is that you will always show respect for others, both here on campus and in the community that surrounds us.

I thank you for your caring response to those in need, to the call for assistance, and for your caring participation tonight. These will be trying days as the scope of the tragedy we have experienced becomes better-defined. Our community will continue to rally to support each other. I am personally grateful for the support that has already been given to me and to those responsible for the safe and secure environment we enjoy here.

You have my continuing appreciation and admiration for your commitment to a caring community. Thank you again for coming this evening.

Wayne Fields

In a moment such as this, when so many families suffer so deeply, so terribly — in a moment such as this, no matter how old we are, it is family we most desire, parents and siblings, those who know and love us best. In our anxiety, we want to be reassured; in our grief, we want to be comforted; in our uncertainty, we want to be loved. Amidst so much fear, we long for the haven of home.

But tonight many of us are far-removed from our parents and our siblings, miles away from where we long to be and from those to whom we most naturally turn for solace and support. Rather we are here, and we are together, and we must be as family to one another, sustaining one another — every one of us — as sisters and brothers do.

The test of a community, especially one so diverse and contentious as ours, is the depth of our commitment to one another, is its ability — *our* ability — in the midst of confusion and doubt, to trust and uphold one another rather than to divide and break. This country is being tried in a new and terrible way; we are being tried in a new and terrible way. And the greatest resource we bring to this difficult moment are the people surrounding us, the affection that, as much as all of our practical considerations, joins us together.

Tonight and in the days to come, we must do the work of sisters and brothers, comforting, supporting, even protecting each other. It is not enough that we merely live through the approaching days; we must come through with decency as well as bravery, humanity as well as courage; we must come through this together, whole and complete. This — as much as justice — do we owe to those who have been most wounded, to those who have died, and to their families as well as to ourselves and to our families.

As a 60-year-old child I am, this day, unashamedly afraid, afraid for my country, afraid for myself and those I love, afraid for the things I most believe are good and right. As a parent, I am distraught with my powerlessness, the awful knowledge that I cannot protect my children, cannot watch over them and keep them from harm. As a child I ask for your comfort and support. As a parent, speaking for all parents, I beg you —

Take care of one another.
Take care of one another.
Take care of one another.

Blood donation information

In the wake of Tuesday's tragedies, there will be an urgent need for blood donations for weeks to come. Upcoming blood drives on campus:

Oct. 1: Noon-5 p.m., the Gargoyle, Mallinckrodt Student Center
Oct. 2: 3-8 p.m., Friedman Lounge, Wohl Student Center
Oct. 3: 3-8 p.m., Friedman Lounge, Wohl Student Center
Oct. 4: Noon-5 p.m., the Gargoyle, Mallinckrodt Student Center
Oct. 29: Noon-5 p.m., the Gargoyle, Mallinckrodt Student Center
Oct. 30: Noon-5 p.m., the Gargoyle, Mallinckrodt Student Center
Oct. 31: 3-8 p.m., Friedman Lounge, Wohl Student Center
Nov. 1: 3-8 p.m., Friedman Lounge, Wohl Student Center

If you would like to receive additional information, as it is available, about future blood drives accessible to the University community during the coming weeks, please e-mail community_service@wustl.edu and ask to be added to the Blood Drive Announcement List.

You may also consider making a monetary donation to the American Red Cross to support its disaster assistance efforts. Donations can be mailed to American Red Cross, 4050 Lindell Blvd., St. Louis, MO 63108, or American Red Cross, P.O. Box 37243, Washington, D.C. 20013.

Victor T. Le Vine, Ph.D., professor of political science in Arts & Sciences, and Carol S. North, M.D., professor of psychiatry at the School of Medicine, speak at a news conference Tuesday morning.

Tragedies

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ranted at this time.

"We still don't know enough to be able to do anything more than simply some elementary speculation. To speculate unnecessarily is to sew the seeds of panic. We are all terribly pained by these events and are waiting further developments."

Le Vine said the events were not part of a spontaneous operation.

"The amount of coordination needed for this was immense," Le Vine said. "You needed to hijack three or four airplanes; you needed to plan; you needed to round up the people; and you needed to find people willing to sacrifice their lives. So this means preparation of at least a month in advance.

"This was not something done on a whim. It was very well-planned and well-organized."

North said people will be affected in varying ways by this tragedy.

"Some people with previous trauma experience may be sensitized," North said. "Other people with past trauma may find strength from having dealt with it before. We know the people most likely to be seriously affected are those with previous psychiatric illness. Those closest to the direct impact will have higher rates of symptoms."

She said the most common types of reactions people have after these types of events are shock, disbelief, a feeling of unreality and possibly numbness.

"People tell us the most effective form of coping is to lean on loved ones, to talk it out, to develop meaning, to process things psychologically," she said. "It is important to get people who are very upset to psychiatric help to evaluate them and determine what type of treatment can be done."

"We must continue to uphold the utmost respect for the diverse people who constitute the Washington University community. People from all areas of the world learn, live and work at the University, and it is especially important at this tragic time that the highest respect be shown to all humanity on and off campus."

MARK S. WRIGHTON

Community

— from Page 1

world learn, live and work at the University, and it is especially important at this tragic time that the highest respect be shown to all humanity on and off campus."

The University will provide regular updates on its Web site regarding any developments that affect the University community. The University hotline — 935-0014 — will be updated routinely to provide additional information.

An e-mail was sent to every student, faculty member, and staff member at the University, sharing this information with them and assuring them that every effort is being made on their behalf, Wrighton said.

PET

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found them in seven women; PET identified abnormal supraclavicular nodes in eight women, whereas CT found none. All abnormalities detected by CT also were detected by PET.

"We were surprised to find that these patients had more traces of tumor in their lymph nodes than we previously suspected," Grigsby said. "These findings are so significant that we have stopped using CT scans for tumor evaluation in patients with cervical cancer."

In fact, he said, "PET findings altered treatment for about half the women in the study." It helped some avoid unnecessary surgery by revealing that their cancer was more advanced than first thought. In others, PET helped better define the radiation dose, the size of the area requiring irradiation, or both.

"Based on our results, we believe that clinical trials comparing treatments for cervical cancer should use PET to more accurately determine what treatment each patient should receive," Grigsby said.

PET's superiority in detecting the spread of cervical cancer is due to a fundamental difference in the two technologies. CT scans produce an X-ray image of a thin cross-section of the body. To diagnose the spread of cervical cancer, radiologists study the images for abnormally enlarged lymph nodes, those greater than 1 centimeter in diameter. Lymph nodes are likely to be enlarged because they contain cancer cells that have spread from the primary tumor.

"The problem is that lymph nodes that are not enlarged also can have tumor cells, and these nodes will go undetected in CT scans," Grigsby said.

PET scans, on the other hand, reveal a metabolic — rather than anatomical — difference between cells and structures. In this study, PET detected the difference in the way cells consume glucose, a simple sugar required by cells to live and grow. Cervical cancer cells grow at a faster rate and therefore have a higher rate of glucose consumption than the normal cells making up the lymph node. Thus, PET can often identify the presence of cancer cells in normal-sized lymph nodes. PET, however, does have a limit of detection, and it will miss tumor-containing lymph nodes if the number of cancer cells is too low.

PET scans also provide images of the entire body.

"A patient's PET scan shows up on a computer monitor," Grigsby said. "It shows an anatomical outline of the patient in 3-D, and the image is slowly rotating. I can see the cancer that I found during the pelvic exam, and I can see the abnormal lymph nodes that I wouldn't have known existed without the PET scan. And that means I can more accurately, more effectively, deliver that patient's treatment."

Commenting on the study, David Mutch, M.D., the Ira C. and Judith Gall Professor of Obstetrics and Gynecology and head of the Division of Gynecologic Oncology, said: "This gives us another tool to evaluate whether a patient has metastatic disease before we operate, and it can help us avoid surgery if it is not appropriate. It's still not 100 percent accurate, but it's the best tool available to help in determining which patients need surgery and which patients need radiation therapy."

Campus Watch

The following incidents were reported to University Police **Sept. 4-10.** Readers with information that could assist in investigating these incidents are urged to call **935-5555.** This information is provided as a public service to promote safety awareness and is available on the University Police Web site at **rescomp.wustl.edu/~wupd.**

Sept. 4

2:52 p.m. — An unknown person broke into a car parked in Wohl Garage and stole stereo equipment. Total loss is valued at $395.

Sept. 5

1:15 p.m. — A University employee reported at 1:15 p.m. a white male with dark hair and a yellow shirt stole a Spann cart that was parked on the south side of Olin Library. The cart was later recovered on the east side of McMillan Hall by a Spann employee.

7:20 p.m. — Two University students were found smoking marijuana behind Shepley House. Both students were taken to the University Police station. One student was released and referred to the Judicial Administrator; the other student was booked on felony possession charges and released pending application of warrants.

Sept. 7

11:49 a.m. — An unknown person used shaving cream to write on the stairway walls leading from the first to the fourth floor of Myers Residence Hall. The vandalism occurred between 8 p.m. Sept. 6 and 8 a.m. Sept. 7. There were no witnesses to the incident.

Sept. 10

5:54 p.m. — A University student struck a parked car while in the Lien Garage between 4:15-5 p.m. The student stated that he did not realize he caused any damage to the unoccupied vehicle. Total damage is unknown.

Additionally, University Police responded to two reports each of drug offense, theft and automobile accident, and one report of vandalism.

Switch

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activating it to rapidly accept energy. At this juncture the energy in the wire has been blunted, or quenched, and instead of light going out, heat is released. That is known as controlling the switch porphyrin's redox state. All these functions happen incredibly fast — in picoseconds, a trillionth of a full second.

Holten and Lammi studied the operation of the molecular switches in Holten's laboratory, a high-technology maze of ultra-high-speed lasers, mirrors, lenses and machinery. The porphyrin arrays were synthesized by John Lindsay, Ph.D., professor of chemistry, and his students at North Carolina State University, and key functions of the molecules were studied by David Bocian, Ph.D., professor of chemistry, and his students at the University of California, Riverside.

"It has been a big mystery why the T gate arrangement works as well as the linear arrangement," Holten said. "Now, we've been able to show that the T gate functions efficiently in both the on and off states because the molecules are able to communicate distantly through the array, namely between the switch and output molecules, even if removed from one another."

The results were published in a recent issue of the Journal of Physical Chemistry, and Lammi discussed the research and other results at the American Chemical Society's national meeting August 26-30 in Chicago. The collaborative research between the groups at Washington University, North Carolina State University and the University of California, Riverside, is sponsored by the National Science Foundation.

Now that researchers know that distant molecules in an array can communicate through superexchange, they are better able to experiment with designs that work more efficiently and bring about different functions.

"The knowledge that our collaborative work has uncovered over the past several years gives a better understanding of molecular switching and enables us and others to tailor molecular design for better flow of energy and charge in order make novel wires, gates and light-harvesting arrays," Holten said.

An ultimate goal of this line of research is to create molecular arrays and building blocks for use in molecular photonics, solar energy conversion, and nanotechnology. In one near term project, the chemists want to extend the operation of their molecular switches. Currently, the experiments use electrochemistry involving electrodes to activate the switching action in solution, but a goal is to develop optoelectronic switches that respond directly to light and can operate in the solid state.

"With the correct design, we can control this process with two different colors of light rather than with electrochemistry," Holten said. "The next generation of these switches will use, for example, blue light to initiate energy flow along the wire to cause red light output at the other end, and green light to activate the switching function and turn the output off."

Many of the molecular arrays that Holten, Lindsey and Bocian create and test are photosynthesis analogs. In photosynthetic bacteria and plants, light is absorbed by arrays of antenna pigments and goes to special proteins called reaction centers where electrons move across membranes, converting light energy to chemical energy. Holten and his wife, Christine Kirmaier, Ph.D., research associate professor of chemistry, have been working on photosynthesis for nearly 30 years to understand the mechanics of the photosynthetic system and the properties and function of porphyrins.

"We've expanded into molecular photonics through our terrific collaboration with Jon Lindsey and Dave Bocian in just the past six years," Holten said. "At this point in the research, we've provided an infrastructure of different molecular architectures and an increased understanding of how the molecules work and can be tuned to have desired properties. Robin Lammi's studies show we understand the current molecular redox-based switches quite well now and give us insights to advance the designs to the next stage."

Washington University Drug and Alcohol Policy

The Washington University Record publishes this policy as a service to the University community.

I. Introduction and Policy Statement

Washington University is unequivocally opposed to the misuse of lawful drugs and the possession and use of unlawful drugs. Pursuant to the requirements of the Drug-Free School and Community Act Amendments of 1989, Public Law 101-226, Washington University adopted the following Drug and Alcohol Policy.

The law requires that, as a condition of receiving federal funds or any other form of financial assistance under any federal program, Washington University must certify that it has adopted and implemented a program to prohibit the unlawful possession, use or distribution of illicit drugs and alcohol by students and employees on its property or as a part of any of its activities.

It is the goal of Washington University to protect the public health and environment of members of the University by promoting a drug-free environment as well as one free of the abuse of alcohol.

The manufacture, distribution, possession or use of illicit drugs and the unlawful possession, use or distribution of alcohol on Washington University property or as a part of any of its activities is prohibited.

Violations of this policy will be handled according to existing policies and procedures covering the conduct of administrators, faculty, students and staff.

II. Standards of Conduct

A. Illicit Drugs: The unlawful manufacture, possession, distribution or use of illicit drugs on Washington University property or as part of any of its activities by University students, employees or their guests is prohibited.

B. Alcohol: Federal legislation prohibits the unlawful possession, use or distribution of alcohol. The possession and use of alcohol by non-intoxicated persons twenty-one (21) years of age or older is, according to Missouri law, lawful. University policies limit the lawful use of alcohol to appropriate occasions. Undergraduate students should contact the Office of Student Affairs for standards governing student parties and student use and possession of alcohol. Graduate students should contact their Dean's office.

III. Legal Sanctions

A. Drugs: The manufacture, possession, sale, distribution and use of illicit drugs is prohibited by city and county ordinance, state law and federal statute. Punishments range from fines of $50 to life imprisonment. The statutes and ordinances define the drugs deemed "illicit." Chapter 195 of the Revised Statutes of Missouri addresses illicit drugs. Section 195.214 of the Missouri statutes specifically prohibits the distribution of any controlled substance on University property. Persons convicted of this offense can be sentenced to imprisonment for not less than ten (10) years.

The Federal Controlled Substances Act prohibits the knowing, intentional and unauthorized manufacture, distribution or dispensing of any controlled substance or the possession of any controlled substance with intent to manufacture, distribute or dispense. Federal law also prohibits the knowing intentional and unauthorized creation, distribution, dispensing or possession with intent to distribute or dispense of a "counterfeit substance."

To review specific provisions of applicable ordinances and statutes, contact the Office of the Executive Vice Chancellor and General Counsel (935-5152).

B. Alcohol: Missouri's Liquor Control Law makes it illegal for a person under the age of twenty-one (21) years to purchase, attempt to purchase or possess any intoxicating liquor (Section 311.325 RSMo.). Violation of this provision can subject one to a fine between $50 and $1,000 and/or imprisonment for a maximum term of one year. County and municipality ordinances contain similar prohibitions and sanctions. To review specific provisions or applicable ordinances and statutes, contact the Office of the Executive Vice Chancellor and General Counsel (935-5152).

IV. Health Risks

A. Drugs

Severe health risks, including death, are associated with the use of illicit drugs. Below are some of the health risks related to each substance. For further information, contact the University Health Services (Hilltop Campus, 935-6666; Medical Campus, 362-3523).

Anabolic Androgenic Steroids — Steroid users can experience serious cardiovascular, liver, central nervous system, gastrointestinal and reproductive disorders. In many, use can result in testicular atrophy, sterility, impotence and arrested growth. Irreversible masculinization and sterility can result when women use steroids. Psychological impairments include mood swings, depression and very aggressive behavior.

Depressants — The use of depressants can result in a change in tolerance and physical as well as psychological dependency. The combining of several depressants (e.g. valium and alcohol) will potentiate the depressant effects, multiplying the health hazards. Withdrawal systems include anxiety, vomiting, acute psychotic episodes, seizures and death.

Hallucinogens — Large doses of phencyclidine (PCP) may result in a convulsive seizure, coma and death. Mood disorders occur and the user may become violent, irrational and potentially harmful to self and others. Lysergic acid (LSD), mescaline and Psilocybin cause sensations and feelings to change rapidly. The user may experience panic, confusion, anxiety, depersonalization and loss of control. While relatively rare, flashbacks, the spontaneous reappearance of the drug experience after use has ceased, may occur.

Narcotics — Tolerance, especially to the euphoric effect of narcotics and physical dependence develops rapidly. In order to avoid the abstinence syndrome, the addict becomes preoccupied with acquiring the drug. Withdrawal symptoms are extremely uncomfortable; however, they are seldom life-threatening.

Stimulants — High doses of stimulants result in intense personality disturbances including visual and auditory hallucination, delusions and paranoia. Tolerance develops rapidly. Cross-tolerance does develop among stimulant drugs (e.g. methamphetamine and cocaine). The use of cocaine can cause death by cardiac arrest or respiratory failure. Stimulants are addictive and while withdrawal from stimulants is less dangerous than with depressants, depression can make a person vulnerable to suicide.

Cannabis — The mood-altering effects of marijuana are the result of the chemical delta-0 tetrahydrocannabinol (THC). THC is fat-soluble and can remain in the body up to three weeks after smoking one marijuana cigarette. Consequently, even the occasional user can be detected through urinalysis. Research indicates that regular use may have long-term effects on the user's brain, heart and reproductive organs. The numerous carcinogenic chemicals found in marijuana make it particularly harmful to the lungs. Loss of memory, lack of motivation and diminished attention span are some of the effects of regular marijuana use. Long-term use may result in psychological dependence and change in tolerance.

B. Alcohol

Abuse of alcohol can produce severe health risks, including death. Alcohol consumption causes a number of marked changes in behavior. Even low doses significantly impair the judgment and coordination required to drive a car safely, increasing the likelihood that the driver will be involved in an accident. Low to moderate doses of alcohol also increase the incidence of a variety of aggressive acts, including spouse and child abuse. Moderate to high doses of alcohol cause marked impairments in higher mental functions, severely altering a person's ability to learn and remember information. Very high doses cause respiratory depression and death. If combined with other depressants of the central nervous system, much lower doses of alcohol will produce the effects just described.

Repeated use of alcohol can lead to dependence. Sudden cessation of alcohol intake is likely to produce withdrawal symptoms, including severe anxiety, tremors, hallucinations and convulsions. Alcohol withdrawal can be life-threatening. Long-term consumption of large quantities of alcohol, particularly when combined with poor nutrition, can also lead to permanent damage to vital organs such as the brain and the liver.

Women who drink alcohol during pregnancy may give birth to infants with fetal alcohol syndrome. These infants have irreversible physical abnormalities and mental retardation. In addition, research indicated that children of alcoholic parents are at greater risk than other youngsters of becoming alcoholics. For further information, contact the University Health Services (Hilltop Campus, 935-6666; Medical Campus, 362-3523).

V. Drug and Alcohol Counseling, Treatment or Rehabilitation or Re-Entry Programs

A. University resources include the University Health Services (Hilltop Campus, 935-6666; Medical Campus 362-3523), the Psychological Service Center (935-6555) and the Department of Psychiatry (362-7002).

B. Numerous non-University counseling programs exist in the St. Louis metropolitan area. Many programs advertise extensively in local media. Consultation with one's personal physician is advised prior to self-referral to such non-University programs. For further information regarding referral to such programs, contact the University Health Service or your private physician.

VI. Disciplinary Sanctions

Different disciplinary procedures are applicable to faculty, staff and students. Violations of the standards of conduct will be dealt with on a case-by-case basis with imposition of discipline being appropriate to the severity of the violation. For each group comprising the University community, there are certain common sanctions that could be applied in an appropriate case. These common sanctions include letters of reprimand, probation and severance of ties with the University, through expulsion or termination. Normally, opportunity for referral to an appropriate rehabilitation program occurs and is usually associated with a first offense. Referral for prosecution will occur for serious violations.

A. Faculty

Faculty discipline is normally administered, in the informal manner, by the faculty member's department head or dean. Faculty members can be terminated for cause only after a hearing conducted before a panel of faculty peers.

B. Staff

The non-academic staff is subject to disciplinary procedures administered by the staff member's department in consultation with the Human Resource offices on the Hilltop and Medical Campuses. The normal range of personnel actions could occur. Staff members are entitled to a hearing and redress by a panel of peers.

C. Students

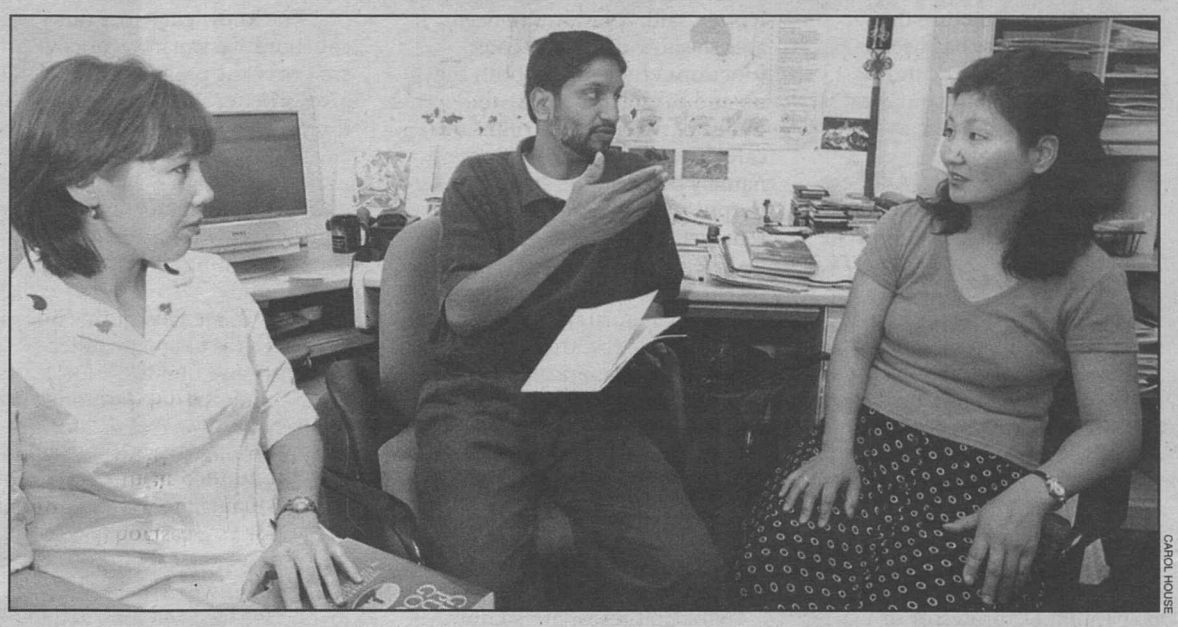
The University Judicial Code governs students' conduct and establishes procedures for adjudicating complaints against students. Expulsion is the most severe sanction possible. In addition, residence halls (including fraternity) can impose discipline upon residents. The University may terminate the residence hall contracts of students violating its standards.

Washington People

Having spent much of his life in India and Thailand with a father who worked for the United Nations, Gautam N. Yadama, Ph.D., associate professor in the George Warren Brown School of Social Work (GWB), seemed destined for the field of international development.

His area of expertise combines analysis of social, political and economic theory, fieldwork studying governance of common resources in developing nations and policy recommendations to improve the lives of the poor and marginalized who are dependent on these resources.

Yadama recalls traveling as a child with his father throughout much of South Asia to assess the resource potential of the tropical forests.



CAROL HOUSE

Gautam N. Yadama, Ph.D., associate professor in the George Warren Brown School of Social Work (GWB), meets with Guzal Kamalova (left) of Uzbekistan and Darikhand Bayar of Mongolia, who are studying at GWB as Open Society Institute fellows.

Advancing collaborative community efforts

Gautam N. Yadama, Ph.D., seeks to improve the lives of the poor and marginalized who are dependent on common resources

BY ANN NICHOLSON

"When most people think of the tropical forest, they imagine its spectacular beauty — what you might see captured in National Geographic-type photos," Yadama said. "But what struck me was the extreme poverty of forest communities. In spite of the abundance, I was impressed by just how difficult their lives were, as they struggled between an oppressive state and predatory markets to eek out an existence."

Later, as a graduate student at the Mandel School of Applied Social Sciences at Case Western Reserve University, Yadama became interested in community-based, resource-management programs being launched in many of these same tropical forests. His doctoral thesis compared governmental and nongovernmental community forestry initiatives in Andhra Pradesh, India. His subsequent research looks at how communities act collectively to govern community forests that are under increasing market and population pressures in India, Nepal, Bhutan and Turkey. His focus is how local communities and the state can put aside their historic differences and make credible commitments to working together to attain sustainable development.

Yadama cautions that creators of development programs must first understand the historic, cultural, social, political and economic dynamics that can complicate state and community cooperation. For instance, in India, colonial and post-independence state policymakers viewed native tribes as indiscriminate users of forest resources who hampered the state's ability to maximize profits in timber and mining industries.

"The resulting policies were not only alienating, but also increased the hardships of vulnerable groups whose survival is linked to forest use," Yadama said. "These policies failed to recognize that before state intervention, forests were being managed as common property guided by institutional norms of tribal communities.

"Today, the most effective policies are centered around state and community forest co-management, where communities and the state both have a stake in enhancing forest conservation while mutually sharing in the benefits. Given the historical tensions and current competing interests in forestry resources, reaching this equilibrium can be a long and difficult process. Essential to achieving this goal will be direct inclusion of the poor and marginalized in the governance of these resources."

Yadama's fieldwork among forest-dwelling tribal communities brings new insight into the roles of social capital, mediating groups such as nongovernmental agencies, governance structures, conditions for creating trust and reciprocity, and institutional arrangements that ensure enforcement and accountability. His work has been published as resource papers for the United Nations, as policy analyses for international development organizations, in professional journals and as chapters in books on development and resource management.

"Gautam's research and publications reflect a wonderful combination of key questions, theoretical insight, innovative research projects, skilled data collection and analytical sophistication," said Michael W. Sherraden, Ph.D., the Benjamin E. Youngdahl Professor of Social Development and director of GWB's Center for Social Development, under which Yadama has conducted research initiatives. "His extraordinary international work in India, Nepal, Bhutan and other countries in South Asia also enriches the research and educational atmosphere at GWB, and enhances the University's efforts to build stronger ties to Asia."

During the 2000-01 academic year, Yadama carried over his knowledge of collective action in forestry communities to his research into collaborative community efforts in urban areas in Nepal. Under a J. William Fulbright Foreign Scholarship grant, he surveyed 150 communities and interviewed 600 households about institutional arrangements — both within their communities and in conjunction with the state — to supply and maintain public goods in neighborhoods. His research, which will be published as a book, will further the policy debate as to why some impoverished communities are more successful than others in providing public goods, such as safe and adequate streets, clean water supplies, sewage systems and garbage disposal.

In 1999, Yadama's creation of the Social Policy in Law Program at Tribhuvan University in Nepal also built on his interests in addressing the needs of the disenfranchised and his commitment to interdisciplinary approaches to solving social problems.

The program seeks to train Tribhuvan University law students in how to shape Nepal's social and political infrastructure so that it addresses the rights of those at the margins of society, including women and children. To gain insights into the role of advocacy in the United States, several of the master's degree law students are observing Washington University School of Law's clinical program this semester.

Under the partnership with Tribhuvan University, Washington University students also have pursued public policy internships in Nepal's emerging democracy. Five social work students, four law students and three dual degree students have worked on projects with grass-roots organizations. Their efforts furthered policy initiatives ranging from combating sexual trafficking of girls and women to promoting micro-finance practices to creating sustainable development programs to assist the poor.

Jane Aiken, J.D., professor of law who is currently in Nepal on a Fulbright grant helping the program explore clinical education initiatives, spoke highly of Yadama's contributions.

"Anyone who knows Gautam knows that he is a man of tireless energy and expansive ideas," Aiken said. "He is a true force in moving Washington University toward more interdisciplinary and international approaches to scholarly inquiry. His drive, intelligence and ability to connect with people in many disciplines and many countries are invaluable."

At GWB, Yadama incorporates his international perspective into his teaching and his efforts to attract students from other countries. Yadama, who joined the faculty in 1991, has been closely involved in the school's partnership with the Open Society Institute. The program brings students to GWB from Mongolia and former Soviet Union countries to train them as the first wave of professional social workers in their homelands.

As coordinator of GWB's concentration in social and economic development, Yadama stresses to his students not only the complexity of international development, but also how lessons learned in developing countries can offer insight into addressing problems among other marginalized groups, such as the urban poor in the United States. His approach encourages students to expand their horizons.

"Dr. Yadama's commitment to bringing an international perspective to the M.S.W. program combined with his own experiences outside of the United States inspired me to pursue my dream of a career as an international social worker," said Felecia Bartow, who graduated with an M.S.W. in 2000 and now serves as program coordinator for the Midwest Immigrant and Human Rights Center in Chicago. "He challenges students to strive for the highest possible standards of academic and professional excellence."

2001 M.S.W. graduate Kelly Corley, who pursued a social policy in law internship in Nepal, said Yadama was an ideal mentor.

"Dr. Yadama pushes students to go beyond what they think they are capable of," Corley said. "He encourages all of us to step outside of society's boxes and look at the world from a different point of view — especially if it is one we are not comfortable with. He is the type of person that just to be around him makes you feel like doing great things."

Yadama visits with a Bhutanese villager during fieldwork in the Paro Valley of Bhutan. Yadama was researching how governmental policies enable communities to manage the region's community forests.

Gautam N. Yadama, Ph.D.

Degrees: B.S., Wilkes College; M.S. and Ph.D., Case Western Reserve University

Languages: Telugu, Hindi and Nepali

Family: Wife, Shanta Pandey, associate professor at GWB; son, Sagar, 8; daughter, Aishwarya, 5